BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2021-89-E
DOCKET NO. 2021-90-E

In the Matter of:	)	
	)	
Duke Energy Carolinas, LLC's and	)	**REBUTTAL TESTIMONY OF**
Duke Energy Progress LLC's	)	**GLEN A. SNIDER**
2021 Avoided Cost Proceeding Pursuant to	)	**ON BEHALF OF DUKE ENERGY**
S.C. Code Ann. Section 58-41-20(A)	)	**CAROLINAS, LLC AND DUKE**
	)	**ENERGY PROGRESS, LLC**
	)	

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Glen A. Snider. My business address is 526 South Church Street, Charlotte, North Carolina 28202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy as Director of Carolinas Integrated Resource Planning and Analytics.

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes.

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY FOR THE COMMISSION.

A. The purpose of my rebuttal testimony is to respond to the testimony of Matthew Stanley on behalf of Pelzer Hydro Company, LLC ("Pelzer") and Aquenergy Systems, LLC ("Aquenergy" and together with Pelzer "Pelzer/Aquenergy") as well as similar testimony presented by John C. Ahlrichs on behalf of Northbrook Carolina Hydro, LLC ("Northbrook" and together with Pelzer/Aquenergy, "the Hydro Advocates").[1] In summary in my rebuttal testimony I:

i. Review PURPA and Act 62 principles and directives in the setting of avoided cost rates;

ii. Highlight specific QF financial considerations raised by Witnesses Stanley

[1] On June 10, 2021, the Hydro Advocates initially pre-filed direct testimony of Witnesses Stanley and Ahlrichs. On July 1, 2021, the Hydro Advocates filed amended pre-filed testimony of these two witnesses.

and Ahlrichs that directly conflict with PURPA's guidelines for the establishment of avoided cost rates;

iii. Explain that DEC has never filed a South Carolina avoided cost rate that included a 2.0 performance adjustment factor ("PAF") as initially claimed by the Hydro Advocates and reintroduce the PAF concept presented in my direct testimony;

iv. Refute claims made by the Hydro Advocates that small hydroelectric ("hydro") facilities provide unique avoidable capacity and energy value for which they are not being appropriately compensated;

v. Address the Hydro Advocates' concerns regarding the current rate design, and explain the need for more granular rate designs to align avoided cost rates paid by consumers with the value created for consumers; and

vi. Summarize the explicit limits and boundaries of PURPA avoided cost rates relative to other potential policy considerations for non-energy benefits that could be made available outside of PURPA.

Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR REBUTTAL TESTIMONY?

A. No.

II. RESPONSE TO HYDRO ADVOCATES

Q. PLEASE SUMMARIZE THE TESTIMONY OF THE HYDRO ADVOCATES.

A. Witnesses Pelzer and Ahlrichs contend that Duke Energy Carolinas, LLC's ("DEC") and Duke Energy Progress, LLC's ("DEP" and together with DEC, the

"Companies") avoided cost rates should reflect additional benefits that they assert small hydro facilities provide to DEC's system, advocate for a higher PAF for hydro facilities, and argue in favor of longer-term power purchase agreements ("PPAs").

Q. BEFORE ADDRESSING THE HYDRO ADVOCATES' SPECIFIC RECOMMENDATIONS, DOES ENCOURAGEMENT OF QF TECHNOLOGIES UNDER PURPA SUPPORT SETTING AVOIDED COST RATES AND POLICIES THAT SUBSIDIZE QUALIFYING FACILITIES ("QFs")?

A. No. PURPA encourages QFs by obligating utilities (and by extension, customers) to purchase QFs' output—at the QFs' option—at the utility's full avoided cost. However, Congress was clear that PURPA was not intended to require the utility and ratepayers of a utility to subsidize QFs.[2]

As I generally explained in my direct testimony, FERC has confirmed the need to ensure customer indifference to utility purchases of QF power, stating that, in enacting PURPA, "[t]he intention [of Congress] was to ***make ratepayers indifferent*** as to whether the utility used more traditional sources of power or the newly-encouraged alternatives."[3] Said another way, the "must purchase" obligation under PURPA requires utilities to offer to purchase QF power at "just and reasonable" rates that result in customer indifference as to whether the energy

[2] Joint Explanatory Statement of the Committee of Conference, H.R. Conf. Rep. 95-1750 at p. 89, 95th Cong., 2d. Sess. 99 (1978) ("The provisions of [section 210] are ***not intended to require the rate payers of a utility to subsidize cogenerators*** or small power producers.") (emphasis added).

[3] *Southern Cal. Edison Co., et al*., 71 FERC ¶ 61,269, at 62,080 (1995), *overruled on other grounds, Cal. Pub. Util. Comm'n*, 133 FERC ¶ 61,059 (2010) (emphasis added).

purchased is generated by the utility's generating fleet or purchased from the QF's generating facility pursuant to PURPA.

Notably, the PURPA provisions of the South Carolina Energy Freedom Act of 2019 ("Act 62" or the "Act") do not change these fundamental requirements of PURPA and do not modify the limits and requirements for calculating avoided costs under federal law.[4] As I explain in my direct testimony, the definition of avoided costs under Act 62 is the same as the definition of avoided costs under FERC's PURPA regulations.[5] Act 62 also specifically provides that "any decisions by the commission shall be just and reasonable to the ratepayers of the electrical utility, in the public interest, consistent with PURPA and the [FERC]'s implementing regulations and orders, and nondiscriminatory to small power producers."[6]

Q. APPLYING THE PURPA AVOIDED COST PRINCIPLES YOU JUST DESCRIBED, DOES THE QF OWNER'S ABILITY TO RECOVER ITS OPERATING COSTS OR ITS ABILITY TO MAKE A PROFIT ON ITS INVESTMENT HAVE A ROLE IN IMPLEMENTING PURPA'S AVOIDED COST REQUIREMENTS?

A. No. Pelzer/Aquenergy Witness Stanley suggests that DEC's avoided cost rates are "harmful and inadequate," causing its hydro QFs to operate at a financial loss, while Northbrook Witness Ahlrichs argues that "profitable or break-even operation is impossible under current avoided cost rates, which are materially similar to those

[4] *See* S.C. Code Ann. § 58-41-20(A).
[5] DEC/DEP Snider Direct, at 10-11.
[6] *Id*.

being proposed in the current proceedings."[7] While I am sympathetic to the challenges these hydro QF owners are facing as avoided costs have declined over the past decade, FERC has made clear that such considerations are not relevant in determining the utility's avoided cost, which is based on the incremental costs of alternative energy and capacity or "cost avoided" *by the utility* and not the operating costs of the QF. In Order No. 872, FERC explained:

> PURPA does not guarantee QFs a rate that guarantees financing. PURPA only requires [FERC] to adopt rules that encourage the development of QFs; it ***does not provide a guarantee that any particular QF will be developed or profitable***. This is evident from the structure of PURPA, which ***caps QF rates at the purchasing utility's avoided costs rather than providing for rates that guarantee the recovery of a QF's costs***.[8]

Q. WITNESS STANLEY AND WITNESS AHLRICHS INITIALLY SUGGEST THAT THE COMPANIES' AVOIDED COST RATES HAVE RECENTLY DECLINED DUE TO A CHANGE IN POLICY RELATED TO THE PERFORMANCE ADJUSTMENT FACTOR ("PAF") USED IN CALCULATING AVOIDED COST RATES. IS THIS TRUE?

A. No. DEC has not offered a 2.0 PAF in South Carolina at any point and the witnesses are mistaken with respect to their initial contention that DEC's past South Carolina avoided cost rates included a 2.0 PAF. I appreciate that the Hydro Advocates' witnesses have amended their testimony to correct this point. However, they still suggest that "[t]he PAF attributed to all QFs does not completely capture the unique value of the small hydro assets" and recommend that the Commission "apply a

[7] Pelzer/Aquenergy Stanley Direct, at 5, 11; Northbrook Ahlrichs Direct, at 4.
[8] *See Qualifying Facility Rates and Requirements, Implementation Issues Under the Public Utility Regulatory Policies Act of 1978*, Order No. 872, 172 FERC ¶ 61,041 at P 335 (Jul. 16, 2020) ("Order No. 872") (emphasis added), *affirmed and clarified by* Order No. 872-A, 173 FERC ¶ 61,158 (Nov. 19, 2020).

higher PAF multiplier for hydro, and then more fully revisit the calculation of avoided cost in a subsequent proceeding."[9]

Q. PLEASE EXPLAIN WHAT A PAF IS AND HOW IT IS USED IN THE DEVELOPMENT OF AVOIDED COST RATES.

A. As I explained in my direct testimony,[10] given that the utility's avoided fleet resources are occasionally unavailable, it necessarily follows that QFs replacing traditional resources should not be penalized for experiencing the same level of unavailability typically experienced by the resources it is displacing. The PAF is a simple reliability equivalence multiplier that is included in the avoided capacity rates paid by the Companies' customers to QFs. This multiplier increases the avoided capacity rate paid by customers and received by the QF.

Q. SO, THE PAF IS DESIGNED TO ADJUST AVOIDED CAPACITY RATES UPWARD TO ENSURE THAT QFs HAVE THE ABILITY TO RECEIVE FULL AVOIDED CAPACITY COSTS RELATIVE TO THE TRADITIONAL CAPACITY BEING DISPLACED?

A. Correct. For DEC, the utility to which the Hydro Advocates' small hydro facilities are connected, the PAF included in the capacity rate calculation is 1.07. This raises the capacity rate paid to QFs by seven percent relative to the cost of the traditional combustion turbine being avoided under the Peaker Method to account for potential unit outages as previously described.

[9] Pelzer/Aquenergy Stanley Direct, at 6, 8; Northbrook Ahlrichs Direct, at 5, 7.
[10] DEC/DEP Snider Direct, at 19.

Q. DOES ORS RECOMMEND ANY CHANGES TO THE COMPANIES' AVOIDED CAPACITY COSTS OR SUGGEST MODIFICATIONS TO THE PAF?

A. No. ORS Witness Horii finds that the Companies' methodology and calculations of avoided capacity costs are consistent with PURPA and the methodology approved by the Commission in Order No. 2019-881(A).[11] ORS also finds the Companies' estimates of generation capacity costs to be reasonable.[12] ORS does not recommend any changes to the PAF multiplier used in developing the Companies' avoided capacity cost rates.

Q. DO YOU AGREE THAT HYDRO QFs PROVIDE UNIQUE CAPACITY VALUE AND SHOULD BE PAID HIGHER AVOIDED COSTS, AS RECOMMENDED BY THE HYDRO ADVOCATES?

A. No. Witnesses Stanley and Ahlrichs suggest that small hydro facilities present the DEC system with an extra level of resiliency by pointing to the fuel supply risk experienced by fossil fuel generators in the Northeast and Texas. They also suggest that small hydro facilities can provide blackstart capabilities to the DEC system.[13]

These assertions, however, fail to recognize that while small hydro facilities diversify the DEC fuel mix, they do not provide incremental value above the full capacity payments available to all QFs under the filed avoided cost rates. Natural gas peaking facilities on the DEC system have both traditional gas supply as well

[11] ORS Horii Direct, at 10. For the avoidance of doubt, ORS does recommend a modification to the seasonal allocation of capacity value but that is a distinct rate design issue. ORS Horii Direct, at 11.
[12] ORS Horii Direct, at 11.
[13] Pelzer/Aquenergy Stanley Direct, at 3; Northbrook Ahlrichs Direct, at 5.

as fuel oil backup (as a secondary fuel source) and are not subject to the same risks experienced in Texas and the Northeast. Furthermore, small hydro output itself is dependent on waterflow, and output can be restricted during drought conditions. Like any other mechanical equipment, small hydro facilities can experience outages and as such are much like other generating resources on the DEC system. As previously stated, a PAF is provided to ensure reliability equivalence by affording QFs a commensurate level of unit outages relative to the traditional resources they are displacing. Finally, the Hydro Advocate witnesses' contention that small hydro facilities provide blackstart capabilities to the DEC system is incorrect. None of the small QF hydro facilities on the DEC system are counted on for blackstart services as part of DEC's system restoration plans.

Q. WITNESS STANLEY ALSO TESTIFIES THAT AVOIDED COST CALCULATIONS SHOULD INCLUDE THE FULL RANGE OF AVOIDED COSTS, INCLUDING TAKING INTO ACCOUNT "OTHER RELATED SYSTEM BENEFITS" SUCH AS "REDUCED STEP-UP, TRANSMISSION AND SUBSTATION LOSSES."[14] DO THE COMPANIES' AVOIDED COSTS TAKE THESE ENERGY-RELATED SYSTEM BENEFITS INTO ACCOUNT?

A. Yes. The avoided cost rates for distribution-connected QFs already include incremental value in the rate calculation to compensate the QFs for the avoidance of transformation losses and transmission line losses as suggested by Witness Stanley. Likewise, the avoided cost rates for transmission-connected QFs include

[14] Pelzer/Aquenergy Stanley Direct, at 6.

value added for the step-up losses. This is an example of how DEC accounts for its full avoided cost consistent with PURPA.[15]

Q. DO YOU AGREE THAT HYDRO QFs SHOULD BE PAID HIGHER AVOIDED COSTS FOR NON-ENERGY LOCAL ECONOMIC AND ENVIRONMENTAL BENEFITS AS RECOMMENDED BY WITNESSES STANLEY AND AHLRICHS?[16]

A. No. It would be unlawful under PURPA to pay QFs for non-energy "benefits" such as fostering local economic development or providing generalized environmental benefits that are not specifically tied to actually-avoidable costs. FERC addressed this exact recommendation in Order No. 872:

> . . . although we [FERC] are sympathetic to the claims of certain QFs that they provide non-energy benefits (such as environmental benefits, waste reduction benefits, and economic development benefits) that are not reflected in avoided cost rates, PURPA section 210(b) prohibits the Commission from requiring QF rates to be set above full avoided costs. ***Because the Commission already requires states to set QF rates at full avoided costs, it is barred from requiring QF rates set higher than that based on the non-energy benefits that QFs may also provide***. However, nothing in PURPA, the PURPA Regulations as they currently exist, or this final rule would prevent states from ***rewarding QFs for such non-energy benefits so long as that is done outside of PURPA***, such as is now done for renewable energy credits (RECs) to compensate QFs for providing unique environmental or other non-PURPA benefits.[17]

Q. WITNESS STANLEY TESTIFIES THAT OTHER STATES ACKNOWLEDGE THE BENEFITS OF SMALL HYDRO GENERATORS

[15] 18 C.F.R. 292.304(e)(2)(iv) (providing that line losses are a factor appropriately considered in quantifying avoided costs).
[16] Pelzer/Aquenergy Stanley Direct, at 7; Northbrook Ahlrichs, at 6.
[17] Order No. 872, at P 123 (emphasis added).

BY PROVIDING TARGETED RENEWABLE ENERGY CREDITS TO SUPPORT THEIR OPERATIONS.[18] PLEASE COMMENT.

A. As FERC explains in Order No. 872, any such subsidization of hydro QFs or other generation technologies for non-energy benefits should occur outside of the PURPA avoided cost framework. Recognition of local economic development and environmental benefits of hydro QFs or other preferred generation technologies—in the form of RECs or other policy mechanisms—is not appropriate for inclusion in avoided cost under PURPA.

DEC/DEP Witness Johnson addresses the fact that the Companies are purchasing RECs from the Pelzer/Aquenergy and Northbrook QFs for North Carolina Renewable Energy and Energy Efficiency Portfolio Standard compliance purposes.

Q. THE HYDRO ADVOCATES ALSO EXPRESS FRUSTRATION THAT "THE RAPID BUILD OUT OF SOLAR FACILITIES IN DEC'S TERRITORY HAS RESULTED IN SMALL HYDRO OWNERS TRYING TO KEEP UP WITH EVER-CHANGING PRICING SCHEDULES" AND "MORE COMPLEX PRICING SCHEMES" THAT HAVE "RESULTED IN MORE COSTLY STAFFING AND AUTOMATION REQUIREMENTS."[19] HOW DO YOU RESPOND?

A. While I understand the Hydro Advocates' concern with the operational aspects of managing more granular rate designs, the avoided cost rates have been

[18] Pelzer/Aquenergy Stanley Direct, at 9.
[19] Pelzer/Aquenergy Direct, at 10-11; Northbrook Ahlrichs, at 9.

implemented in this manner to better align production from QFs with the avoidable capacity and energy value created for consumers. Seasonal and hourly differences in customer demand along with increasing levels of must take solar QF energy on the system result in varying avoided energy values by season and time of day. This Commission's adoption of more granular rate designs in Order Nos. 2019-881(A) and 2020-315(A) recognized that such a design better reflects the actual avoided cost benefit customers receive as a result of their purchasing QF energy under filed avoided cost rates. This matching of value creation with costs paid to the QF is the foundational tenet of PURPA and today's system necessitates the granularity contained in the Companies' filed avoided cost rates. While it is true that the subject of avoided costs has become more complex since the passage of Act 62, that is the legislative and regulatory framework now in place.

Q. WITNESSES STANLEY AND AHLRICHS SUGGEST THAT DEC'S MORE COMPLEX PURPA IMPLEMENTATION FRAMEWORK HAS AFFECTED THE ABILITY TO PLAN FOR FUTURE OPERATIONS.[20] DO YOU AGREE?

A. To the extent the QF, at its own discretion, elects to sell its output under PURPA in the form of successive shorter-term contracts that are subject to future changes in rate design, I can understand the operational complexities that may result from such an approach. Of note, however, the QF has the option at the end of its contract to elect a longer-term avoided cost rate for a period of up to ten years that would lock in the capacity rates, energy rates, and associated rate design over the term of that

[20] *Id.*

contract. DEC's current long-term ten year fixed avoided cost rates are approximately 20 percent higher than the one-year energy-only avoided cost rates that the Hydro Advocate QFs are selling under today.

Q. THE HYDRO ADVOCATE WITNESSES ALSO TESTIFY THAT THE CHALLENGES THEY ARE EXPERIENCING RECOVERING THEIR COSTS OF OPERATING THEIR HYDRO FACILITIES SUGGESTS THAT THE COMPANIES ALSO LIKELY DO NOT OPERATE THEIR OWN SMALL HYDRO FACILITIES WITHIN CURRENT AVOIDED COSTS AND THAT "THE PROPOSED AVOIDED COST RATES RESULT IN HYDRO QFs BEING TREATED LESS FAVORABLY THAN UTILITY OWNED HYDRO."[21] PLEASE COMMENT.

A. I dispute that the comparison made is relevant to calculating avoided costs under PURPA. As the Commission recognized in Order No. 2019-881(A), "[t]he Commission's comprehensive regulation of public utility generation through certification of planned new generating facilities and cost of service-based ratemaking is fundamentally different from the Commission's task in these proceedings to approve forecasted avoided cost for energy and capacity to be paid to QFs under PURPA."[22]

For utility-owned assets, the Commission explained that "the utility is provided only a reasonable opportunity to earn a return on its invested capital and to recover its actually incurred expenses to meet its obligation to serve customers.

[21] Pelzer/Aquenergy Direct, at 9; Northbrook Ahlrichs, at 7.
[22] Order No. 2019-881(A), at 27, Docket Nos. 2019-185-E, 2019-186-E (Jan. 2, 2020), *reconsidered on other grounds* Order No. 2020-315(A) (April 16, 2020).

The utility also recovers its capital invested over significantly longer depreciation lives for utility-owned assets, which lowers the near-term rate impact for utility projects because lower annual depreciation costs are passed directly to customers through a lower revenue requirement."[23] In contrast, under PURPA, "utility customers are locked into paying for the QF's power at the administratively determined avoided cost rates for the full term of the PPA, regardless of whether market conditions change or whether the value of the QF energy and capacity decreases or increases."

Consistent with Order No. 2019-881(A), the Commission's authority and responsibility to regulate the rates and service of public utilities in South Carolina is fundamentally different than the Commission's limited oversight of QFs and the setting of avoided cost rates through its implementation of PURPA.

Q. DO YOU HAVE ANY FINAL COMMENTS FOR THE COMMISSION?

A. Yes. The Companies recognize that avoided cost rates have declined over the past few years and also appreciate that these hydro QF facilities have been selling to DEC for a number of years and that they likely do provide non-energy environmental and community benefits, as testified to by Witnesses Stanley and Ahlrichs. However, these considerations are beyond the scope of PURPA avoided costs. Additionally, it is important to reiterate that it is DEC's and DEP's customers that pay for all purchases of QF power. The costs of QF power, including from the hydro QFs, are a wholesale purchased power expense that is simply passed through to customers under the Companies' fuel clause. To meet PURPA's policy goals

[23] Order No. 2019-881(A), at 43.

and to comply with the requirements that rates paid to QFs under PURPA must be just and reasonable to electric consumers, the avoided cost rates paid to all QFs must not exceed the Companies' actual avoided costs so as not to unduly and improperly burden the Companies' customers.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.